REMARKS

Claims 1 to 7, 9 to 16, and 19 to 23 are now pending in the application. Claims 8, 17, and 18 are cancelled.

Claim 6 is amended to correct a typographical error.

Claims 1, 12, and 13 are amended. Support for the amendments is found in the specification as published, for example, at paragraphs [0022] and [0027] to [0028].

Claims 21 to 23 are new. Support for the new claims is found in the specification as published, for example, at paragraphs [0036] to [0040].

The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and the remarks contained herein.

CLAIM OBJECTIONS

Claim 6 stands objected to because of certain informalities: namely, Claim 6 includes a dependency to itself. Applicants thank the Examiner for pointing out this typographical error. Claim 6 is amended to appropriately recite dependency to independent Claim 1.

REJECTIONS UNDER 35 U.S.C. § 102 OVER WERTZ ET AL.

Claims 1 to 5, 12, 14 to 16, 19 and 20 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over Wertz et al. (U.S. Pat. No. 5,345,309). In light of the claim amendments provided herein, these rejections are respectfully traversed.

The Wertz et al. reference does not describe: 1) a source creating a primary laser beam of electromagnetic energy of predetermined width; 2) an electromagnetic laser beam receiver spaced from said source for processing an output signal; and 3) a processor for processing an output signal consisting of measurement data of at least one secondary laser beam, as recited in independent system Claims 1 and 12 and in the steps of independent method Claim 13. Accordingly, the presently amended claims are not anticipated by the Wertz et al. references.

Wertz et al. describes a conventional light source that provides collimated white light through use of focusing optics. "The light source 33 for generating the shadow edge of the can 40 as well as all the necessary focusing optics is generally shown in FIG. 1 . . . ." (Wertz et al. at col. 7, lines 23-25). Additionally, ". . . it is to be expressly understood

that the [light source] teachings are well known based upon U.S. Pat. No. 4,863,275." (Wertz et al. at col. 7, lines 25-27). "The present invention utilizes collimated white light in a reduced field of view to produce a sharp shadow image of the object's edge." (U.S. Pat. No. 4,863,275 at col. 3, lines 46-49). The source described by Wertz et al. is "a concentrated source of white light," that emits divergent rays 220a and not a single, coherent, beam until optically processed. (U.S. Pat. No. 4,863,275 at col. 6, lines 41-68, col. 7, lines 1-4, and FIG. 2). Thus, the Wertz et al. reference does not describe a source creating a primary laser beam of electromagnetic energy.

The Wertz et al. reference further discloses a camera for receiving an object's shadow, and not a laser beam receiver as recited in the amended claims. For example, at col. 7, lines 12-18, Wertz et al. states:

> Essentially, the camera 32 receives a shadow of the edge of the can 40 when the can is in position A and delivers digitized pixel information corresponding to the shadow's edge over lines 34 to the video frame grabber. The shadow is created from light generated by light source 33 which is part of the non-contact measurement apparatus 30.

Therefore, amended Claims 1, 12, and 13 recites a "laser beam receiver," and not a camera adapted to receive a shadow generated by a conventional light source, as described in the cited Wertz et al. reference.

The cited Wertz et al. reference also describes a computer adapted to process digitized pixel information corresponding to an edge of a shadow of an object. (Wertz et al. at col. 7, lines 14-16 and 44-47). "The video frame grabber 36 delivers the digitized information for the shadow's edge onto bus 52 for delivery to the computer for processing." Accordingly, Wertz et al. does not disclose a processor for processing an output signal *consisting of* measurement data of at least one secondary laser beam.

For at least the above reasons, independent Claims 1, 12, and 13, and claims directly or indirectly dependent thereon, are patentable over the cited Wertz et al. reference.

REJECTION UNDER 35 U.S.C. § 103 OVER WERTZ ET AL. IN VIEW OF NAKAGAWA ET AL.

Claims 6 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wertz et al. in view of Nakagawa et al. (U.S. Pat. No. 4,226,539). These rejections are respectfully traversed.

As established above, Wertz et al. does not teach or suggest each and every limitation of the presently amended claims. The Nakagawa et al. reference, cited as a teaching of vertical drive device including a gear mechanism, and an indexing station for automatic positioning of objects, does not cure the deficiencies of the Wertz et al. reference.

Accordingly, Claims 6 and 7 are patentable over the combined Wertz et al. and Nakagawa et al. references.

REJECTION UNDER 35 U.S.C. § 103 OVER WERTZ ET AL. IN VIEW OF NAKAGAWA ET AL. AND WOLF ET AL.

Claims 8 to 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wertz et al. in view of Nakagawa et al. and further in view of Wolf et al. (U.S. Pat. No. 4,972,258). These rejections are respectfully traversed.

As established above, the combined citations of Wertz et al. and Nakagawa et al. do not teach or suggest each and every limitation of the presently amended claims. Although Wolf et al. is cited as a teaching of electromagnetic laser beams of visible red light, the Wolf et al. reference does not cure the deficiencies of the Wertz et al. reference. The Wolf et al. reference does not teach or suggest an electromagnetic laser beam receiver spaced from said source for processing an output signal, or a processor for processing an output signal consisting of measurement data of at least one secondary laser beam

Applicants further note that a claim reciting "several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. __ (2007). The presently amended claims are not proved obvious because, in part, Wolf et al. is nonanalagous art. Wolf et al. is not in the field of Applicants' endeavor, nor reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). Instead, Wolf et al. describes scanning

microscopes employed for characterizing fine details and structure of materials, for example, small anomalies such as inclusions, crystal lattice dislocations, grain boundaries, vacancies, interstitials, etc. Wolf et al. is not in the field of plastic bottle profiling, nor reasonably pertinent to the macroscopic determination of container profiles.

One of ordinary skill in the art of plastic bottle profiling would not look to the field of microscopy to which Wolf et al. belongs. Therefore, Wolf et al. cannot be properly relied upon for a teaching of electromagnetic laser beams, etc. for profiling, as recited in the claims of record.

It is respectfully submitted that the subject matter of Claim 11 is also not taught or suggested by the combined references. Wolf et al. merely teaches that a ". . . wavelength of the beam is 632.8 nanometers which is visibly red . . . ." (Wolf et al. at col. 5, lines 29-30). Wolf et al. does not teach or suggest visible red light generically, nor the specific wavelength of light recited in Claim 11; namely, visible red light including a wavelength of 670 nm. In fact, Wolf et al. teaches a helium-neon laser, which is known to have an operational wavelength of about 633 nanometers and not a wavelength of 670 nanometers as recited in Claim 11 (lasers have a well-defined wavelength). For at least this further reason, the cited combined references do not render Claim 11 unpatentable.

REJECTION UNDER 35 U.S.C. § 103 OVER WERTZ ET AL. IN VIEW OF WOLF ET AL. AND FORBES

Claims 13, 17, and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wertz et al. in view of Wolf et al. and further in view of Forbes (U.S. Pat. No. 4,465,937). These rejections are respectfully traversed.

The combined Wertz et al, Wolf et al. and Forbes reference do not teach or suggest the steps of: 1) providing a source for generating a primary laser beam of predetermined width; 2) receiving at least one secondary electromagnetic laser beam of energy; and 3) processing an output signal, said processing consisting of measuring the at least one secondary electromagnetic laser beam and determining the difference between the width of the primary laser beam of electromagnetic energy and a width of the at least one secondary electromagnetic laser beam.

As established herein, Wertz et al. does not teach or suggest a source for generating a laser beam. Wolf et al., cited as a teaching of a laser beam, is nonanalagous art and therefore not properly combinable with the Wertz et al. reference. The Forbes reference also does not teach or suggest a laser beam source. Rather, Forbes discloses a conventional light source that is directed from the source to the object to be scanned by right angle reflectors. (Forbes at col. 4, lines 31-48). Accordingly, the combined art cited by the Examiner does not teach at least the second step of amended Claim 13.

Similarly, Forbes does not teach or suggest a step of receiving at least one secondary electromagnetic laser beam. Forbes describes an electrical image detector that provides an electrical output signal which includes electrical representations of light-to-dark edge boundaries produced by object occluded light from a conventional light source. The corresponding electrical output signals represent the peripheral dimensions of the object about its periphery and along its entire length. (Forbes at col. 2, lines 51-68, and col. 3, lines 1-22). As described by Wertz et al., 'Forbes utilizes a light source that provides a beam of light having a width greater than the width of the object being scanned so that as the light source is rotated around the object, *deviations in the shadow's edge can be sensed* by photo sensors and determined." (Wertz et al. at col. 3, lines 58-63, emphasis added). Thus, Forbes does not teach or suggest a step of receiving at least one secondary electromagnetic laser beam, but instead receives and measures deviations in the shadow's edge resulting from conventional lighting.

Finally, the combined references do not teach or suggest a processing step "consisting of measuring the at least one secondary electromagnetic laser beam and determining the difference between the width of the primary laser beam of electromagnetic energy and a width of the at least one secondary electromagnetic laser beam." The phrase "consisting of" excludes any step not specified in the claim. *In re Gray*, 53 F.2d 520, 11 USPQ 255 (CCPA 1931). Indeed, the Wertz et al. reference teaches receiving a shadow of the edge of a can and delivering digitized pixel information corresponding to the shadow's edge to a video frame grabber for computer processing. (See Wertz et al. at col. 7, lines 12-16). This is different from measuring the width of at least one secondary electromagnetic laser beam. Thus, the combination of Wertz et al. with Wolf et al. and

Forbes would not result in a processing step "consisting of" measuring the at least one secondary electromagnetic laser beam.

For all of these reasons the amended independent Claim 13, and all claims dependent thereon, are patentable over the combined Wertz et al, Wolf et al. and Forbes references.

NEW CLAIMS

New Claims 21 to 23 have been added. Claim 21 recites further steps included in the step of determining the perpendicularity of the object. Claim 22 recites further steps included in the step of determining the zero reference point. Claim 23 recites a further step of scanning a threaded portion of the object to determine dimensional information from the threaded portion. The added claims are patentable for at least the reasons recited above with respect to independent Claim 13.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed. Applicants therefore respectfully request that the Examiner reconsider and allow the presently outstanding claims. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (419) 847-1100.

Respectfully submitted,

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